



FLUOROPOLYMER COATINGS

Premium coatings and
premium linings for all
industrial fields

Rudolf Gutbrod GmbH

COATING TECHNOLOGY FOR THE HIGHEST REQUIREMENTS

Perfect results for surface protection do not just happen by chance. Since it was established in 1964, Rudolf Gutbrod GmbH has worked successfully on continuous improvements as well as on the advancement of innovative solutions for coating technology. The Rudolf Gutbrod GmbH belongs to the leading fluoropolymer coaters in Europe.



WE WELCOME CHALLENGES



Apart from many other factors, the success of Rudolf Gutbrod GmbH is based on the following fundamentals: On the one hand, every object to be coated starting from the smallest to the largest part is processed separately and individually – no mass production but certainly serial production. In this way, the most difficult jobs can be solved problem-free and highest requirements can be satisfied. On the other hand, Gutbrod as a private company places particular emphasis on closeness to the customer and consultation – communication, mutual understanding, and finding the best solutions together.

The highest requirements with regard to quality, reliability and safety as well as the unlimited competence and experience of Gutbrod in this special field of fluoropolymer coating have set new standards in the market time again and again and strengthened the top position of the company. The Rudolf Gutbrod GmbH, which today employs more than 45 people, cooperates from the beginning with well-known national and international raw material suppliers.



Constant dialogue with customers provides a view of their various needs and enables personal consultation, which at Gutbrod is marked by knowledge, competence, experience and interested open-mindedness. In this way, exact problem solutions which match the objective and perfect results are produced right from the beginning. Comprehensive support during order processing as well as reliable service to follow mean: At Gutbrod the customer and their requirements are the centre of focus.



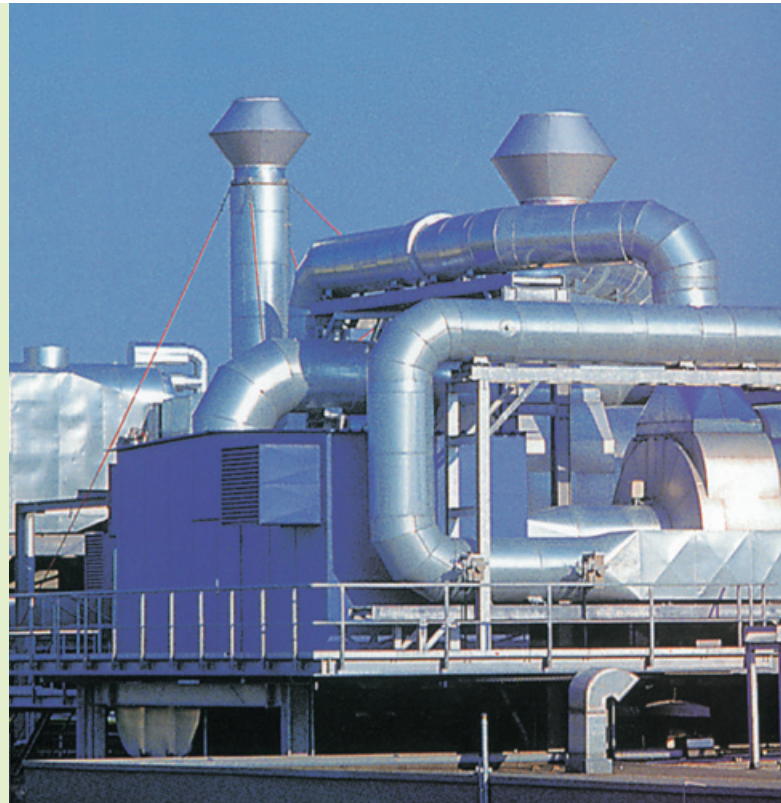
Rudolf Gutbrod GmbH – everything that characterizes a Swabian family business: Interested open-mindedness, extensive knowledge and abilities, readiness to innovate, motivation and determination to achieve, as well as a fair and respectful way of treating customers and employees.

SATISFIED CUSTOMERS WHO TRUST IN GUTBROD

| | | | |
|---------------------------|-------------------|-------------------|-------------------|
| AllessaChemie | Borealis | Infineon | Sachtleben Chemie |
| BASF Ludwigshafen | Cabot | Jungbunzlauer | Saltigo |
| BASF PharmaChemikalien | Clariant | KataLeuna | Sandoz |
| BASF Rudolstadt | DSM | Kemira | Siegle + Epple |
| BASF Schwarzheide | Dynamit Nobel | Krohne | Siltronic |
| Bayer CropScience | DyStar | Lanxess | Stockhausen |
| Bayer HealthCare | Endress + Hauser | Lenzing AG | Tectrion |
| Bayer MaterialScience | Evonik | Merck | Uhde |
| Bayer Schering | Fluorchemie Dohna | Momentive | Vinnolit |
| Bayer Technology Services | Haldor Topsoe | OMV | Wacker Chemie |
| Biochemie | Hoffmann-La Roche | PCK | |
| Boehringer | Ineos | Robert Bosch GmbH | |

FOR EVERY INDUSTRY THE RIGHT SOLUTION

- Pharmaceutical and Chemical Industry
- Semiconductor Technology
- Automobile Industry
- Food Industry
- Textile Industry
- Paper Industry
- Paint Industry
- Materials Handling and Process Engineering
- Film Processing
- Plant and Mechanical Engineering and more besides



COMPLETE AND CERTIFIED



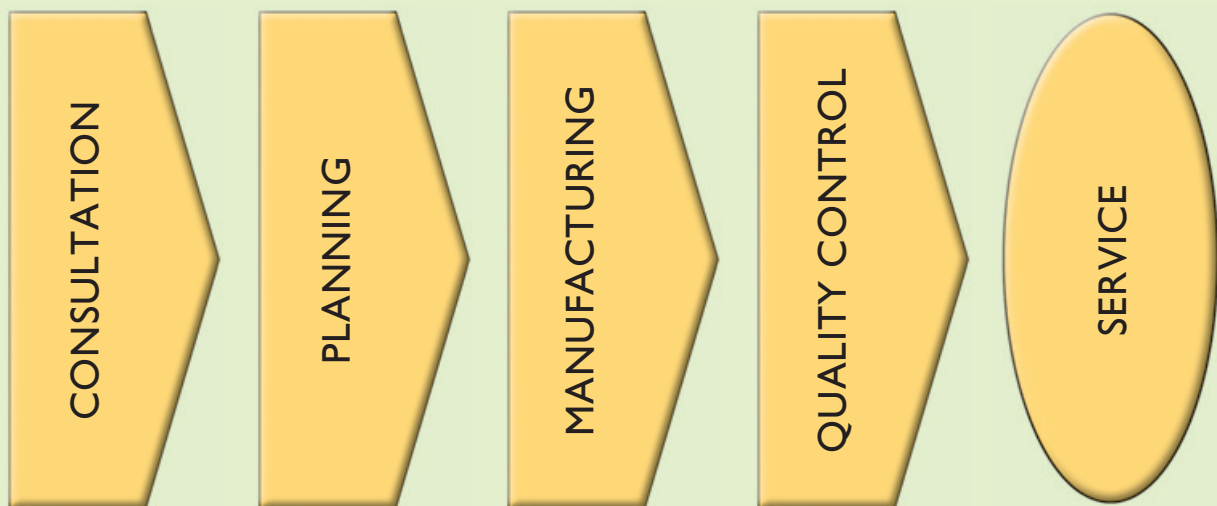
Already speak to us in your planning phase. We shall also be pleased to provide complete solutions and to take on the responsibility for your steel structure besides all the preliminaries in our headquarters, as well as in co-operation with our competent and certified partners.

Thanks to our own jig manufacture (object mounting possible with ChemResist up to 2.2 tonnes, depending on the kind of coating weights up to ~10 tonnes can be processed), the most modern equipping of our production resources and installations (altogether 16 stoving ovens with the maximum

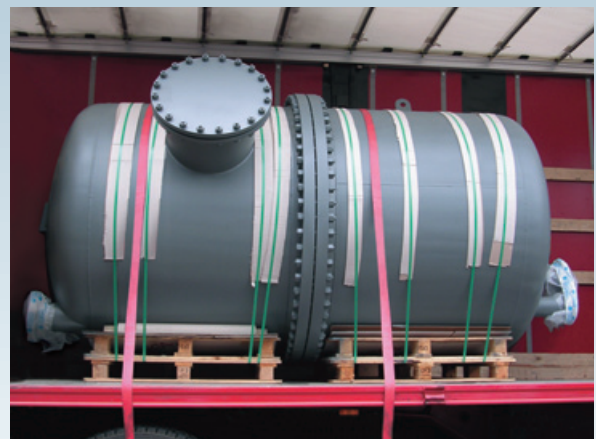
COMPETENT IN ALL FIELDS

In order to stay competitive in today's world we offer our customers not only perfect solutions for linings and coatings, but also holistic concepts. From personal consultation to specific planning and the most modern production with pretreatment and delivery on time, you will receive everything from Gutbrod from a single supplier – competent, reliable and in the best quality. Subsequent service completes the extensive Gutbrod programme.

Rudolf Gutbrod GmbH solves everyday, standardised orders just as conscientiously as specialized, individual problems with the highest level of difficulty.



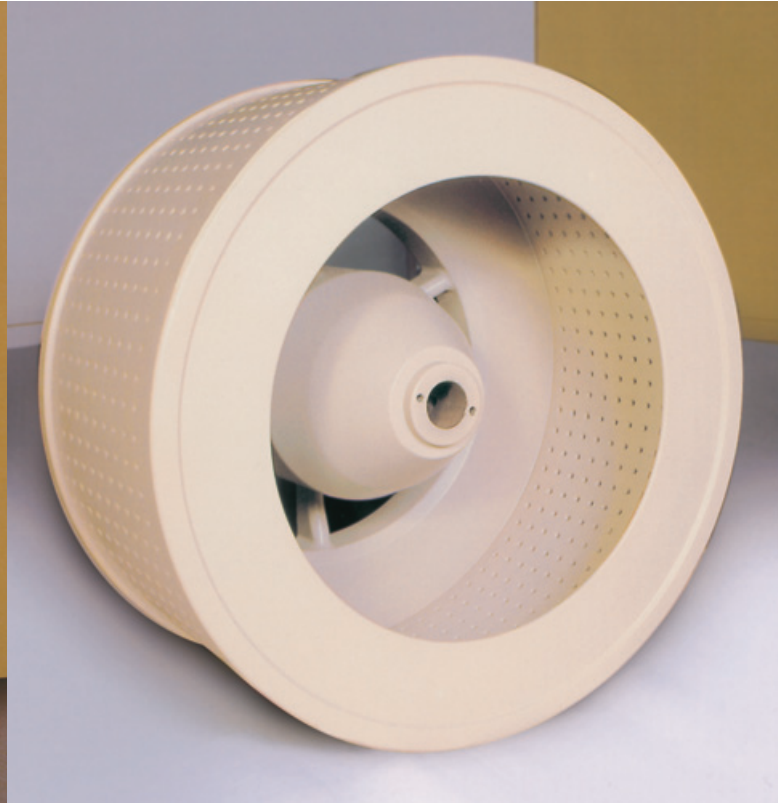
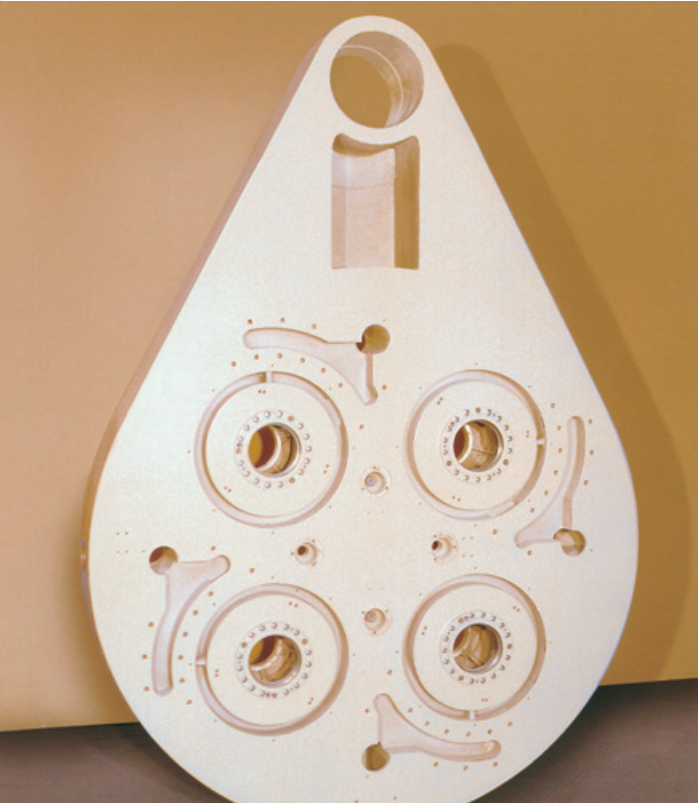
application sizes $7 \times 5 \times 5$ m and $9 \times 2.5 \times 2.5$ m, as well as three sandblasting halls, two with aluminium oxide, one for glass beads and/or ceramics), we manufacture using state-of-the-art technology. Our processes and procedures are certified according to the norm ISO 9001:2008. Gutbrod will continue to pursue high investments in new capital equipment in the future.



HIGHEST LEVEL OF PERFECTION LAYER FOR LAYER

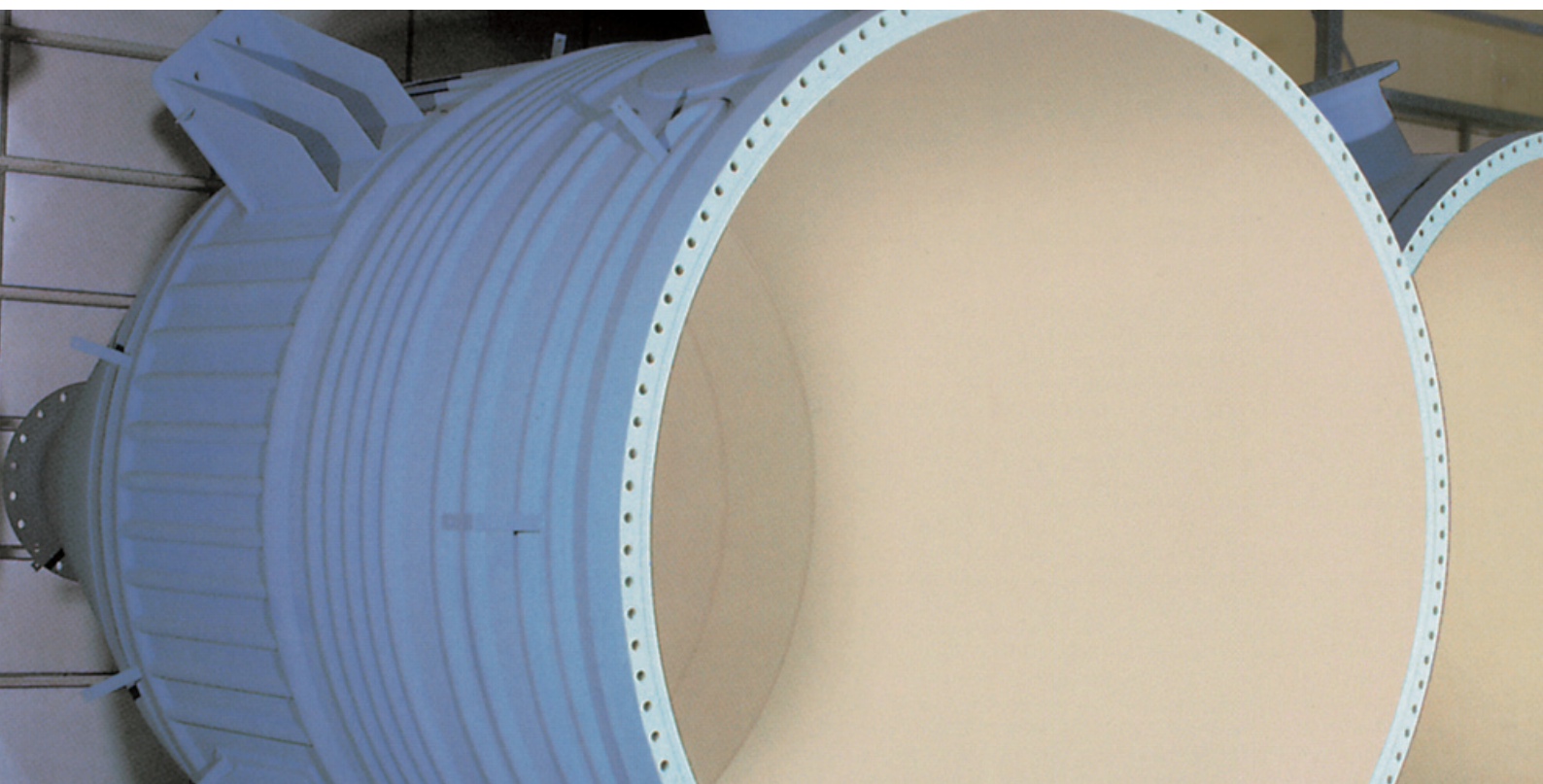
Modern industry nowadays needs the highest degree of operating reliability for its technical equipment. For this reason, apparatus, pipes and containers have to be equipped with a non-corrosive finish.

EDLON™ PFA from Gutbrod stands for a high-quality coating system consisting of two components: the material as well as the application process.



The high chemical and temperature resistance of the material makes the system universally applicable. High-performance material, the special application process as well as the high quality of workmanship together result in a smooth protective surface and thus the highest degree of long-term operating reliability. The lamination of the substrate and EDLON™ PFA is of greatest importance in this respect.

In practice, the first-class coating know-how of the Rudolf Gutbrod GmbH thus enables application over the entire temperature range of application – even, for example, with fast rotating centrifuges, as well as under vacuum conditions – to give some interesting prospects.



SEAMLESS PROTECTION AGAINST CORROSION

EDLON™ PFA is used everywhere where high requirements are placed on corrosion protection.

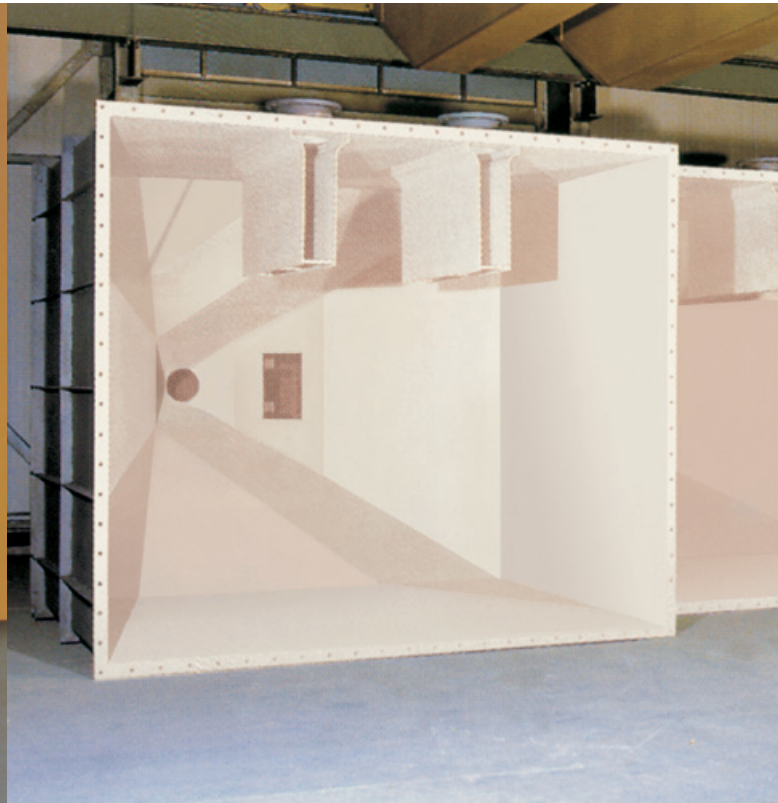
Challenging solutions for ensuring operational reliability as well as for technical equipment are required particularly in modern industry. Apparatus, pipes and containers have to be equipped with a non-corrosive finish.

This factor is particularly important, among other things, in the areas:

- Chemical and pharmaceutical industry
- Semiconductor technology
- Machine and apparatus engineering
- Emission protection

RESISTANCE UNDER HIGH LOADS

PFA as a fully fluorinated polymer is the most resistant material after platinum and thermally stable up to 260° C. The system can be used during the operational demands of a process up to peak loads of 150° C and thereby offers safety reserves for short operational breakdowns. Practical tests are recommended before a large-scale use, particularly at high temperatures and with combinations of media.



MULTI-FUNCTIONAL FOR MANY APPLICATIONS



The outstanding advantages of the EDLON™ PFA system are extremely various and of considerable use for the customer:

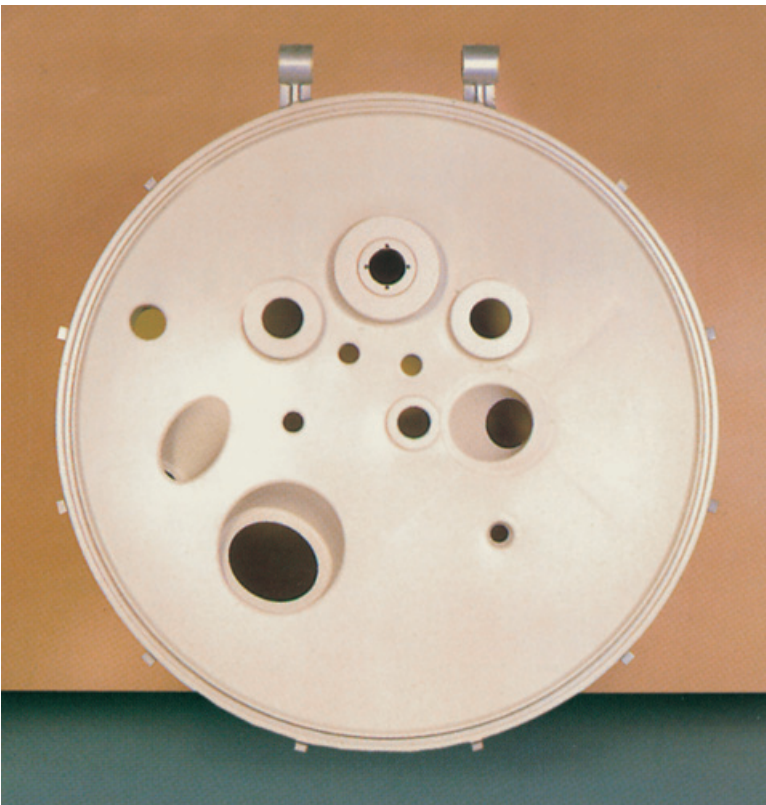
- Achievement of high layer thicknesses (up to 1.5 mm, depending on the component size and design)
- PFA as a full fluorinated polymer is the most resistant material after platinum
- Thermally stable up to 260° C
- Also available as an electrically conductive version

This is where Gutbrod brings in its applications know-how. Our extensive experience as well as the large number of available positive operating results serves us as a basis for assessing individual application cases.

Complex testing under operating conditions and quality controls at Rudolf Gutbrod GmbH provide the highest level of safety. Thus, for example, the non-porous nature of the coating is guaranteed by checking the pore density of the finished final layer after completion of the layer structure.

Perfect surface protection with EDLON™ PFA starts at Gutbrod with optimal preparation:

- Observance of the construction guidelines according to DIN EN 14879-1
- Pre-treatment: Thermal degreasing, (removal of oily and greasy residues), preparation of the adhesive layer by blasting with highly pure aluminium oxide
- Use of altogether 16 oven plants for sintering procedures. Maximum application sizes: 7 × 5 × 5 m and 9 × 2.5 × 2.5 m



- FDA conform
- Certified according to the Technical Directive on Air Quality Control
- Applicable up to 150° C at peak loads during operation of a process including safety reserves (depending upon the chemical exposure)
- New and interesting perspectives result under vacuum conditions
- Smooth protective layer prevents potential emissions

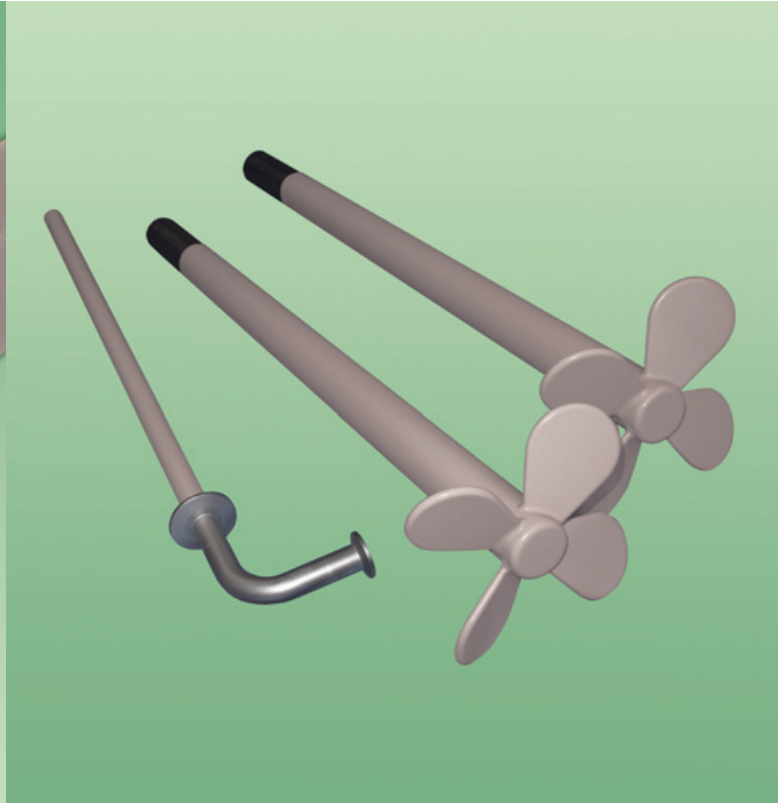
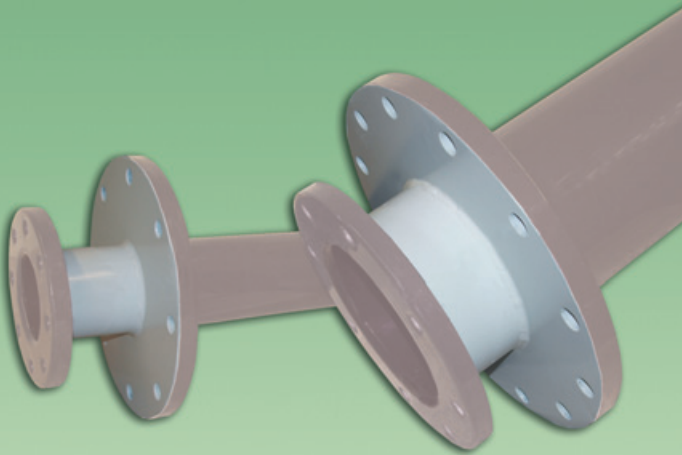
- EDLON™ PFA coatings are repairable under certain conditions and can be repaired on site. Long downtimes or complex return transport are thus avoidable
- Optimal surface protection with EDLON™ PFA means the highest quality with the greatest multi-functionality and economy

PFA is known as a fluoropolymer plastic that is resistant to aggressive organic and inorganic chemicals and solvents over a wide temperature range.

For all applications where common non-stick-coatings due to strong wear and chemical attacks will be destroyed, use our newly developed extraordinary **Abrasion-Resistant PFA**-coating system.

ABRASION-RESISTANT PFA

For the first time we have created a coating-system with optimum triple effect (abrasion-resistant, chemical-resistant, classical non-stick-properties) up to a layer thickness of ~ 1.5 mm – which has extraordinary advantages compared with common coating and lining systems.



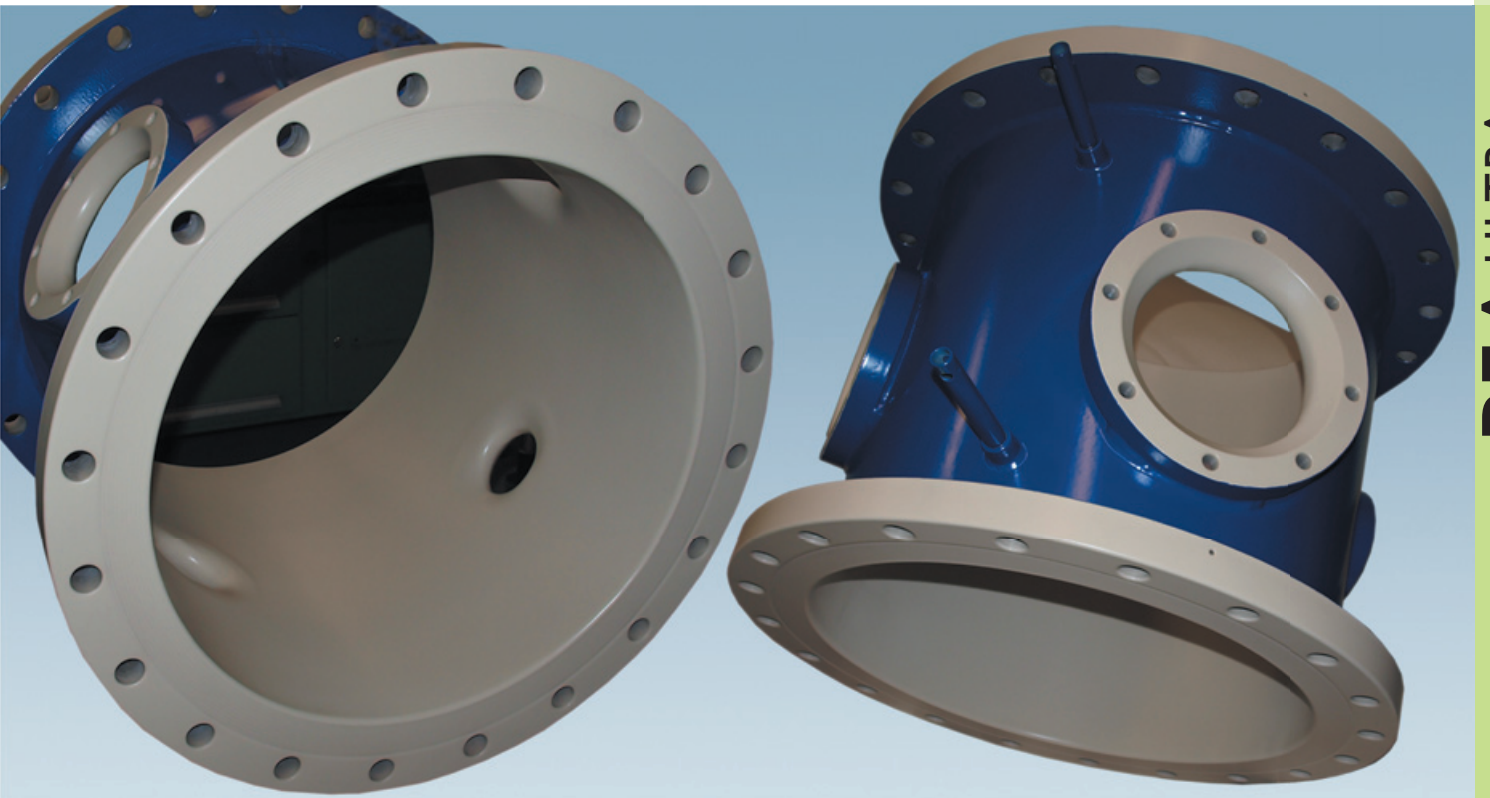
Now still more benefits

- Abrasion-resistant
- Excellent non-stick-properties, easy to clean
- Excellent universal chemical resistance at high temperatures
- Resistance against almost all organic and inorganic chemicals
- Locally repairable
- Solvent-resistant
- Non flammable
- Cold resistant
- Very best permeation properties
- Suitable for vacuum
- Available from ~ 50 μm up to ~ 1.5 mm
- Firm bond to substrate
- Seamless, homogenous coating
- FDA-compliant

CHEMICAL PROTECTION AT HIGHEST LEVEL, WITH VERY BEST PERMEATION PROPERTIES

The material for this Fluoropolymer-coating, which will be applied with a specific method, is highly resistant against chemicals and acids, and has extraordinarily advantages, compared with common coating and lining systems:

- Seamless lining for almost all designs
- No welded joints
- Excellent bonding to substrate
- Compared with usual PFA outstanding features in permeation by using filler
- Layer thickness from 200 µm up to 2 mm



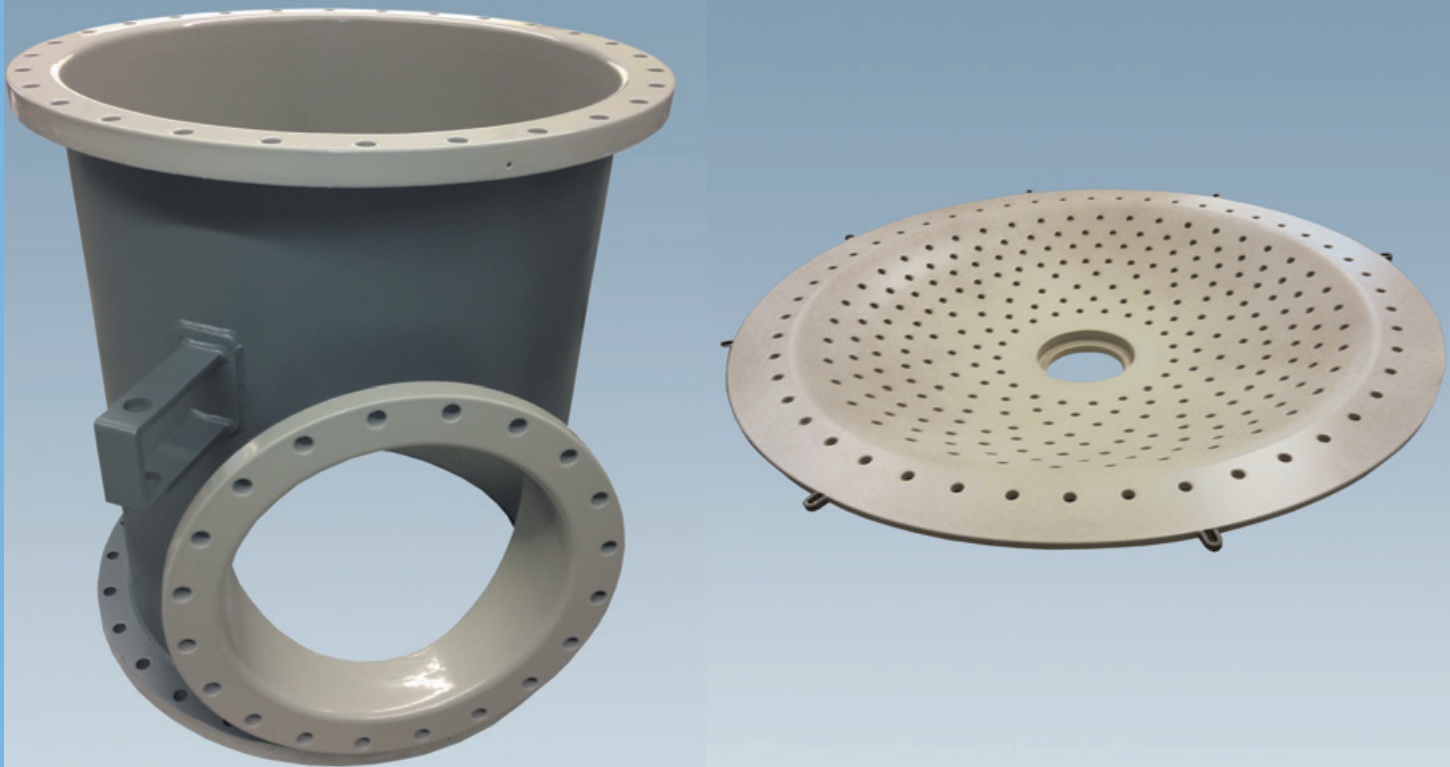
Features of the coating

- Exceptional, universal chemical resistance at high temperatures
- Excellent when proven under clean room conditions
- Also available in the electrically conductive version
- Locally repairable
- Solvent-resistant
- Easy to clean, excellent non-stick properties
- Non flammable
- Cold resistant

- Best permeation properties
- Suitable for vacuum
- FDA-compliant

CHEMICAL PROTECTION AT HIGHEST LEVEL, WITH VERY BEST PERMEATION PROPERTIES

The material for this Fluoropolymer-coating, which will be applied with a specific method, is highly resistant against chemicals and acids, and has extraordinarily advantages, compared with common coating and lining systems.



- Seamless lining for almost all designs
- No welded joints
- Excellent bonding to substrate
- Compared with usual ETFE outstanding features in permeation by using filler.
- Layer thickness from 200 µm up to 2 mm
- Comparable in many ways to our PFA ultra⁺ – however the more economically favourable solution.
- Exceptional, universal chemical resistance at high temperatures
- Excellent when proven under clean room conditions
- Also available in the electrical conductive version
- Locally repairable
- Solvent-resistant
- Easy to clean, excellent non-stick properties
- Non flammable
- Cold resistant
- Best permeation properties
- Suitable for vacuum
- FDA-compliant

THE INNOVATION – ESPECIALLY FOR IMMERSION-TUBES

The material for this Fluoropolymer-coating, which will be applied with a specific method, is highly resistant against chemicals and acids, and has extraordinarily advantages, compared with common coating and lining systems.

Exceptional, universal chemical resistance at high temperatures.



- Seamless lining
- No welded joints
- No glue
- Excellent bonding to the substrate
- Variable layer thickness up to 3 mm

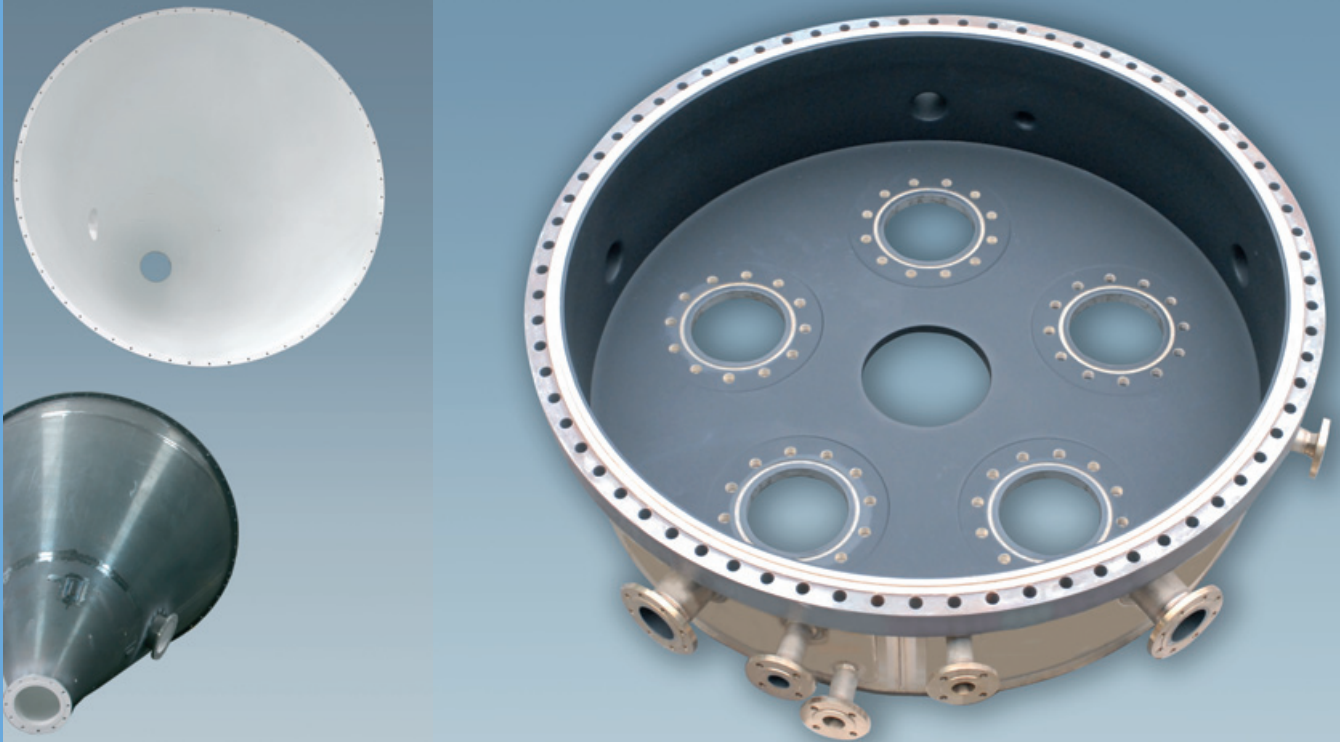
Features of the coating

- Outstanding features in permeation by using filler
- Also available in electrical conductive version
- Locally repairable
- Solvent-resistant
- Easy to clean, excellent non-stick properties
- Non flammable
- Cold-resistant
- Best permeation properties
- Suitable for vacuum
- FDA-compliant

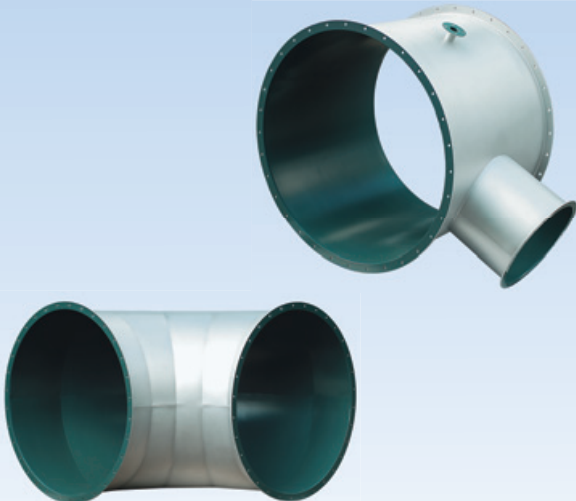
WELCOME TO THE UPPER CLASS

ETFE coatings provide excellent properties against mechanical influences, are extraordinary good electrical insulators and chemically stable against nearly all media. Similarly, use at high temperatures is totally problem-free and safety is ensured by excellent non-flammability.

ETFE



FIELDS OF APPLICATION



ICS-ETFE is used for coating stainless steel process and utility pipework, for example. As a special, flame-resistant interior coating, this is particularly suitable for the coating of exhaust air pipework, for example, in factories in the chip, solar cell and fibre optics industries. ICS is FM-approved – each construction part is marked separately with the FM specification. This coating is also tested according to the American safety standard Factory Mutual Research 4910 and suitable for use in clean rooms.



High tensile strength at break, good fire characteristics, durability, low intrinsic weight as well as high light and UV permeability are ideal prerequisites for this.



The coatings are used, amongst other things, in the chemical industry, the electrical industry, the automobile industry as well as in the food industry and in semiconductor technology.

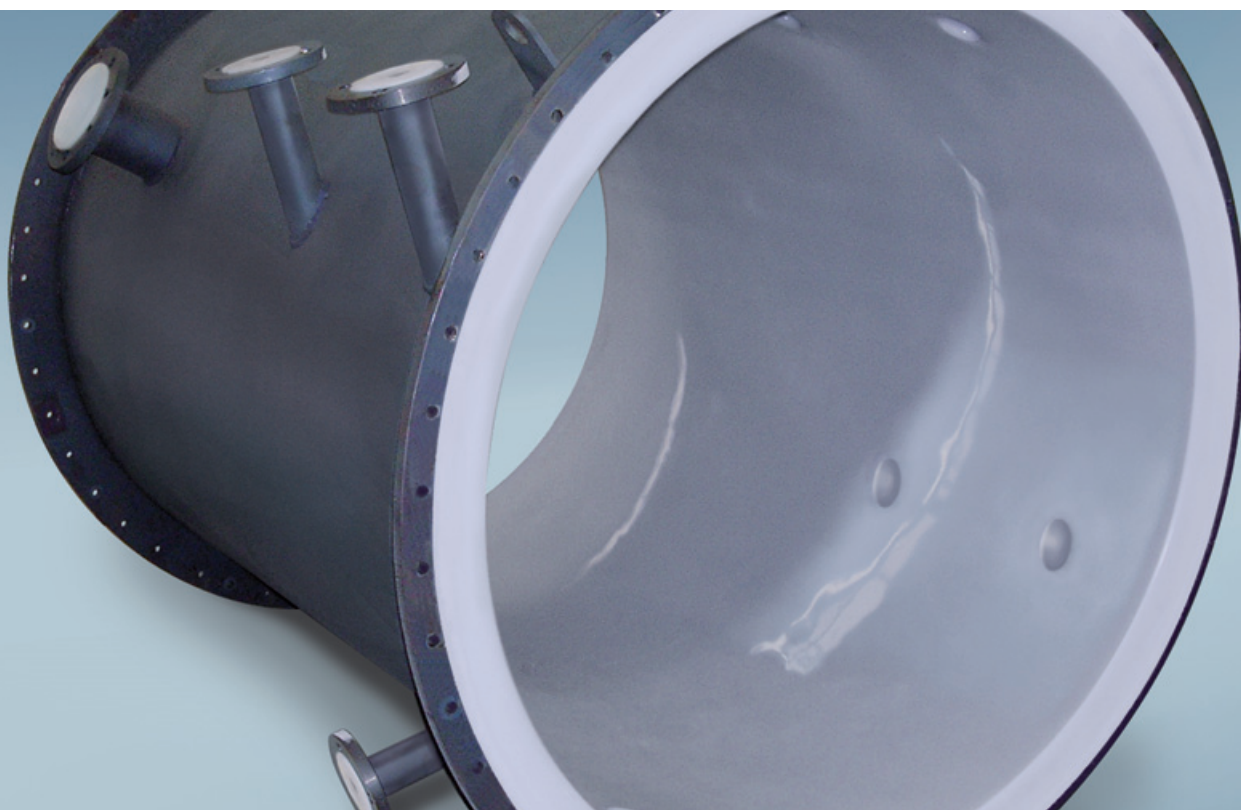
ETFE coatings are particularly well suited for use in the semiconductor and pharmaceutical industry. ETFE resists the most extreme conditions, such as e.g. the processing of high-purity grade water (molecules can still be extracted by this even from glass or ceramic).

A coating with ETFE is suitable for many construction parts. For example:

- Tubes and pipelines
- Casings and containers
- Process and utility pipes
- Centrifuges
- Reactors
- Tanks
- Inspection glass and more besides

STRONG MATERIAL MEETS HIGHEST COMPETENCE

Just like all the other coating processes described already, an application using ETFE from Gutbrod can be accomplished efficiently and without a problem. Best possible knowledge of the subject matter, the sophisticated Gutbrod coating technology as well as the most modern working equipment culminate in optimal implementation of customer requirements and goals.



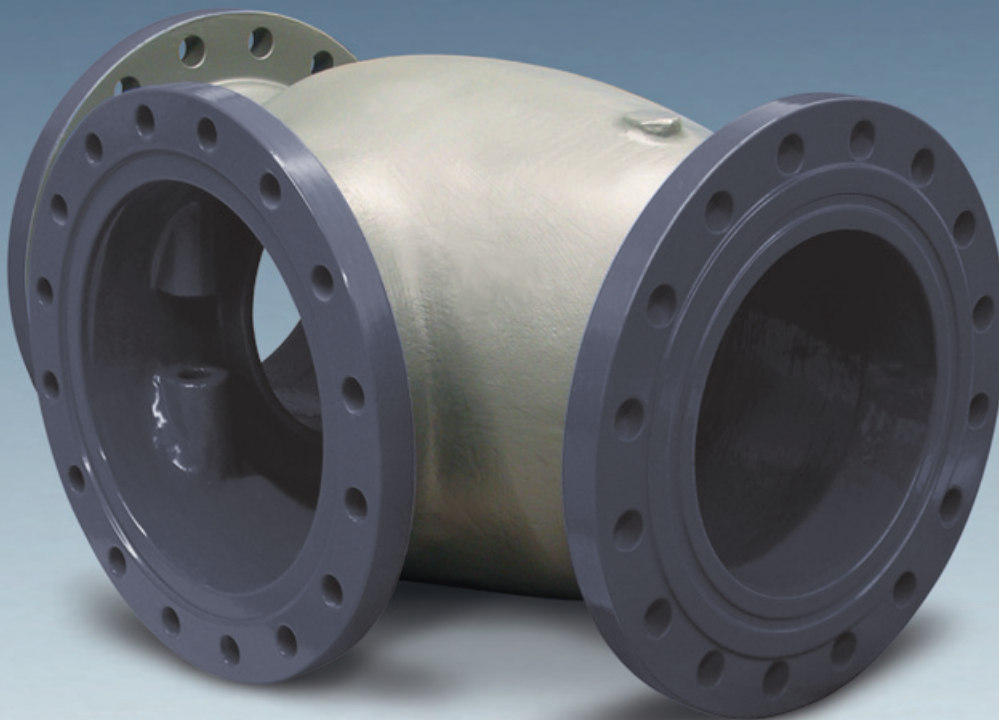
MAXIMUM PERFORMANCE IN MANY AREAS

ETFE is the most stable fluoropolymer and satisfies the highest possible claims regarding quality for an optimal coating. Many of the outstanding characteristics of ETFE have already been presented. Here are some of the advantages summarized in an overview:

- Very good chemical stability with aggressive media
- Outstanding electrical characteristics. Excellent insulation properties and a low dielectric constant
- Broad temperature range of application

ETFE is a modified copolymer consisting of ethylene and tetrafluoroethylene. With ETFE, a very tough and steadfast coating with excellent chemical and corrosion resistance even at very high as well as low temperatures is possible. ETFE can be outstandingly well processed. Layer thicknesses of more than 1.5 mm can be produced, depending on the design of the construction part.

Several alternatives are available as coating process. Besides powder coating, layer thickness up to 7 mm are possible using the rotational lining procedure with ETFE (depending on the construction and geometry of the construction part). In this respect detailed information is summarised in our ChemResist brochure or in the Internet under: www.gutbrod-ptfe.de



- Cold resistant
- FDA compliant
- Extremely weather-proof against exposure to sun, wind, rain and also exhaust gases
- Safety thanks to best possible flame retardancy
- Very steadfast against mechanical influences, such as e.g. vibrations and bending loads
- Extremely moisture repellent and absolutely water resistant
- Innocuous, neutral to taste and smell

- Long life-span, even under influences such as high temperatures, solvents, oils, oxidising agents, UV light, and more besides
- Electrically dissipating version available
- Anti-adhesive surface

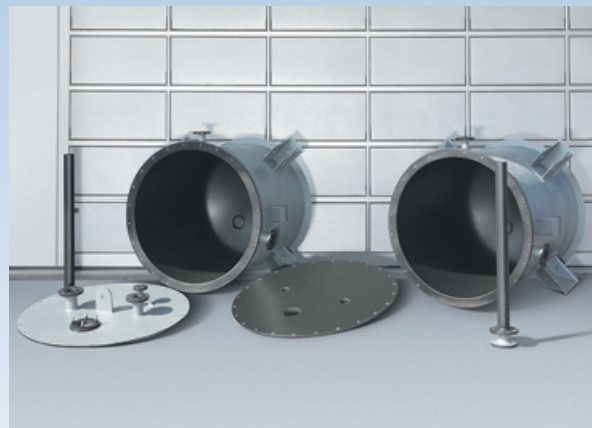
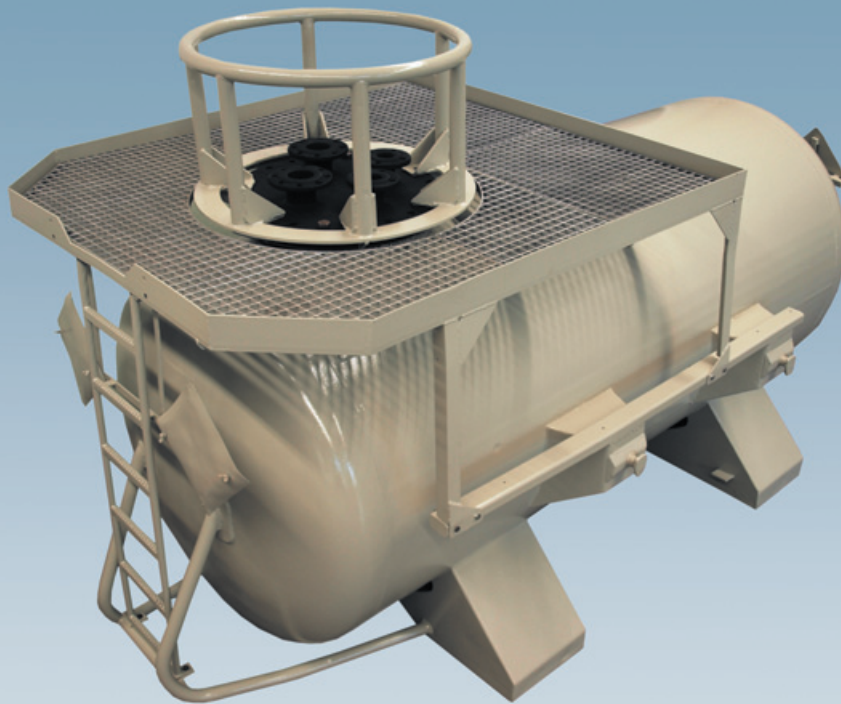
SUSTAINABLE PROTECTION AGAINST CORROSION IN TANKS AND CONTAINERS




The fluoropolymer coating for special tank systems and containers.

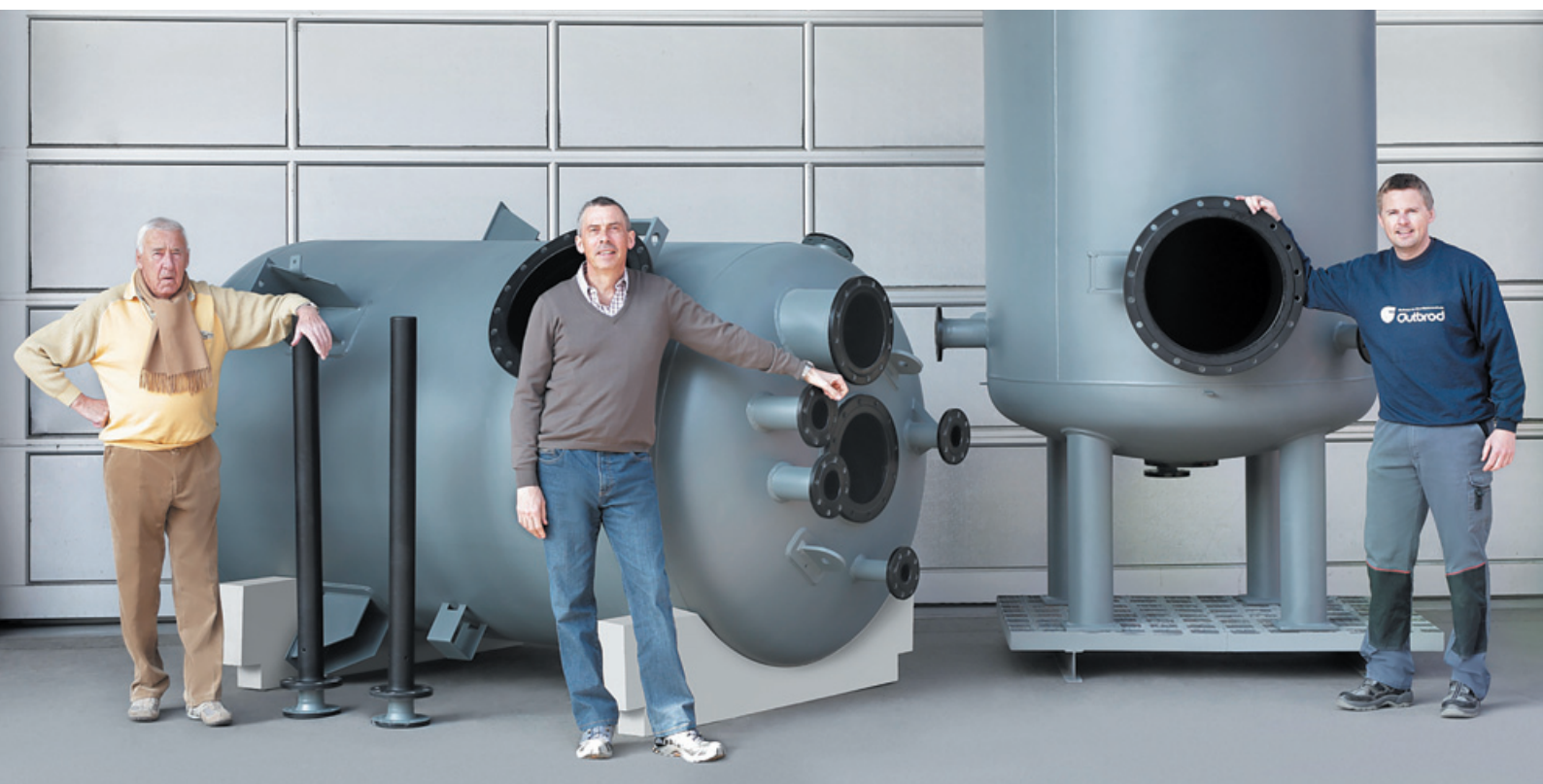
Modern tank and environmental technology requires safety and cost effectiveness.


Gutbrod stands for innovative ideas and a dedication to service in coating with fluoropolymers and other technical, high-performance materials.



Using products with the  name, a chemical and acid resistant inner coating that is sustainable and cost-effective can be applied to special tank systems and containers through an access port.

The material for this Fluoropolymer-coating, which will be applied with a specific method, is highly resistant against chemicals and acids, and has extraordinary advantages, compared with common coating and lining systems:



- Using products with the  name, tank interiors can be coated through an access port
- Seamless coating, no weld seams, no adhesives
- Outstanding features in permeation by using filler
- Universal chemical resistance in high temperature ranges
- Resistance against most known bases, solvents and acids
- Very high resistance to weathering
- Excellent mechanical stability, easy to repair
- Very high resistance to radiation

- Also available in electrical conductive version
- No stress cracks
- Easy to clean
- FDA-compliant
- Non-flammable



EFFECTIVE AND ECONOMICAL

In global competition all sectors of industry have to adapt to the pressures for even greater productivity, better utilization of manufacturing capacities, as well as more modern technologies and newer processes.

E-CTFE



FIELDS OF APPLICATION



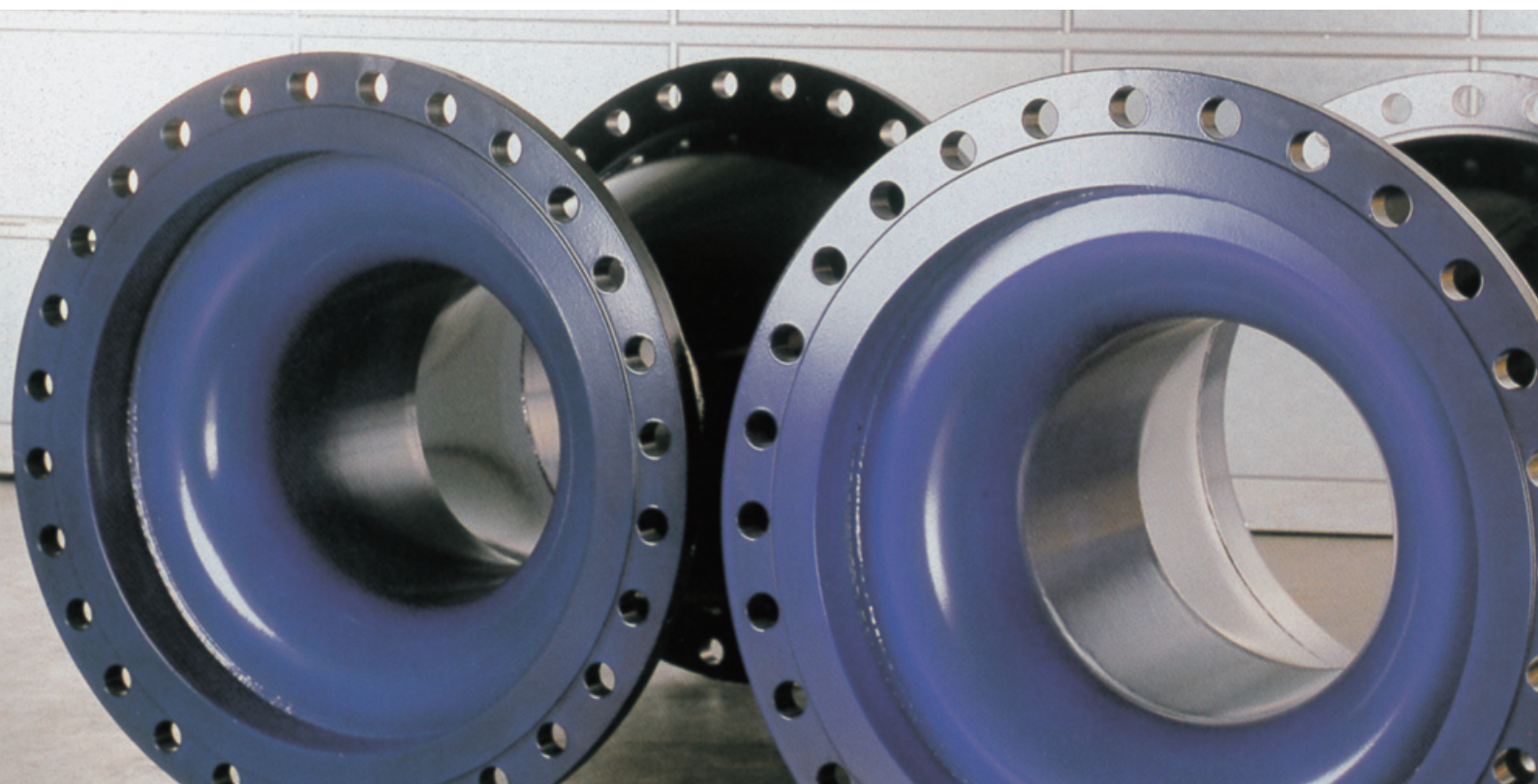
Just like ICS-ETFE, ICS E-CTFE is also suitable for the coating of stainless steel process and supply pipes, for example. As special, flame-resistant E-CTFE interior coatings, this is particularly suitable for the coating of exhaust air pipework, for example, in factories in the chip, solar cell and fibre optics industries. ICS is FM-approved – each construction part is marked separately with the FM specification. This coating is also tested according to the American safety standard Factory Mutual Research 4910 and suitable for use in clean rooms.



Corrosion protection of many kinds of industrial equipment plays an important role here. Chemical, thermal as well as mechanical stability have to withstand ever greater demands. Apart from technical aspects, economic needs also have to be able to meet increasing requirements.

E-CTFE – used in coatings from Gutbrod – was developed as a coating process with outstanding characteristics particularly for corrosion protection.

Universal chemical resistance in high temperature areas of application as well as excellent mechanical resistance qualities result in a perfect combination of robust characteristics for tough daily use. New and interesting perspectives result from this even under vacuum conditions.



FLEXIBLE AND VERSATILE

Due to the many outstanding characteristics both in a technical and economic respect, E-CTFE – used in coatings from Gutbrod – can be used very flexibly in many fields of industry. Particularly for the semiconductor, micro-electronics, solar panel and chemical industry, the pharmaceutical sector as well as for plant and mechanical engineering, Rudolf Gutbrod GmbH offers with coatings made with E-CTFE excellent corrosion protection for working equipment used in these fields.

Coating examples with E-CTFE

- Separators
- Armatures
- Containers
- Spring coating
- Filters
- Screw conveyors
- Galvanic baths
- Fan heaters
- Bearing flanges
- Laboratory basins
- Membranes
- Pumps
- Reactors
- Pipes
- Inspection glass
- Tanks
- Thermo-sensors
- Transportation plant
- Valve components
- Wash towers
- Heat exchangers
- Bucket wheels
- Centrifuges
- and more besides

SAFE AND ENVIRONMENTALLY FRIENDLY

Many years of experience as well as constant improvements in powder and priming materials enable Gutbrod to achieve perfect results with coatings made with E-CTFE in best quality, even with moulded parts with the highest level of difficulty.

The distinctive feature of the coating material and electrostatic powder spraying technology hereby complement one another optimally. The layer structure and application processes produce a non-porous surface protection which is firmly



FUNCTIONAL AND EFFECTIVE

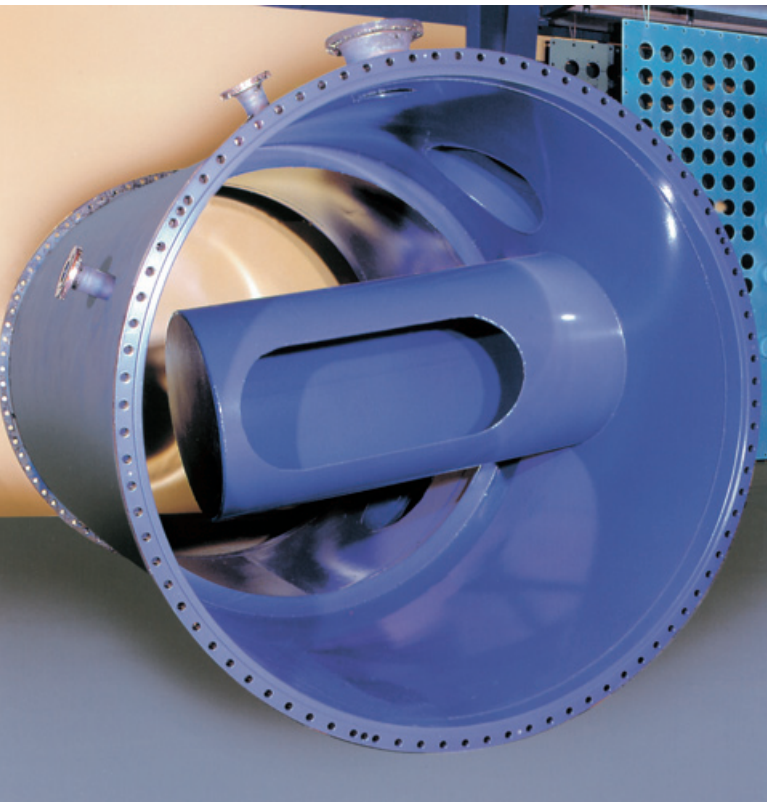
Many crucial advantages make coating with E-CTFE so functional and effective:

- Outstanding chemical resilience:
Resistant to most technical acids, bases and solvents
- Very good electrical properties:
Low, stable dielectric constant over a broad range of temperatures and frequencies
- Very good radiation stability:
Excellent retention of good properties after cobalt 60; even at 200 MEGARAD E-CTFE still shows acceptable values

bound to the substrate material, with which layer thicknesses up to 1500 µm can be achieved depending on the construction of the parts.

Before coating, each object is carefully pre-treated at Gutbrod. The construction guidelines according to DIN EN 14879-1 are observed thereby. Continuous controls during and after coating are standard. Perfect surfaces with correct layer thicknesses and non-porosity are a matter of course at Gutbrod to achieving fastidious working quality.

Corrosion protection with E-CTFE is a clean business. Because of the „dry“ procedure, no solvent is released into the air. This is good for the environment and a further argument in favour of E-CTFE used in coatings from Gutbrod.



- Best mechanical stability:
Dimensionally stable drilling, turning, milling or grinding of the coated part is possible without a problem
- Very good weathering resistance:
Practically no changes under the influence of weather
- Outstanding flame-retardant properties:
No melting, no dripping, only charring; if the flame is removed, E-CTFE extinguishes immediately

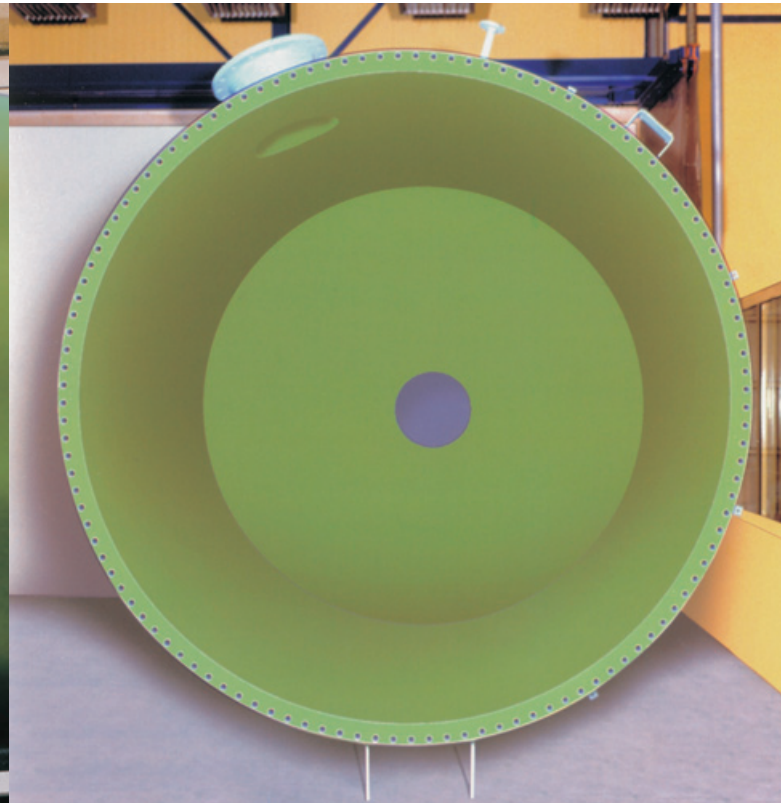
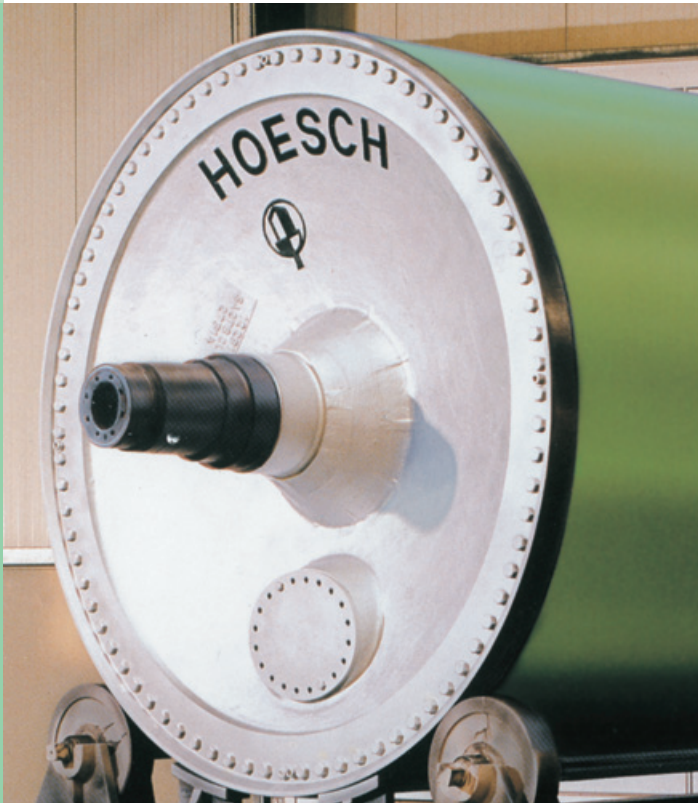
- Problem-free repair:
Small damaged spots can be repaired on site without partial dismantling; larger areas can be repaired using E-CTFE plates welded into place or by coat removal and recoating
- FDA compliant
- Also available as an electrically dissipating version
- Certified according to the Technical Directive on Air Quality Control

SPACE-APPROVED AND ‚HASH BROWN‘ TESTED

Everyone knows PTFE – better known under the brand name Teflon® from the American chemical company DuPont – from home as the space-approved, non-stick finish to prevent fried eggs and hash browns sticking in the frying pan.

But PTFE is also an indispensable material for industrial non-stick and dry lubrication coatings, due to the numerous positive characteristics which are unbeatable by any other plastic material. Without PTFE, many modern procedures would be inconceivable.

New applications are being developed all the time. PTFE coatings are outstandingly suitable on metals, glass and ceramics. Many years of experience and the fully developed technology from Rudolf Gutbrod GmbH in this area enable the highest level of perfection. Thereby, no limits with regard to dimensions are set either upwards or downwards. Gutbrod coats both minute objects of a few millimeters as well as giants, e.g. construction parts, with its maximum oven sizes of 7 × 5 × 5 m and 9 × 2.5 × 2.5 m.



NOT ONLY GREAT IN THE PAN

A very attractive characteristic of PTFE is its physiological safety. This makes PTFE particularly interesting for use in the area of drinking water and in contact with food. Thus, the famous Teflon® pan is only a small excerpt from an extremely far-reaching and extensive field of application in industry.

Everything that has to run smoothly and where no product caking is desirable is a potential application for a PTFE coating.

Practical examples:

- Scraping knife
- Baking sheets
- Containers
- Mandrels
- Colour mixers
- Pastry form rollers
- Tapered valve plugs
- Cookie cutting rollers
- Guide plates
- Glue dispensers
- Press plates
- Pump pistons
- Tyre moulds
- Screw conveyors
- Dough processing tooling
- Funnels
- Drying drums
- Packaging equipment and more besides

ELECTROSTATIC, AIRLESS OR WITH COMPRESSED AIR – ALWAYS A SMOOTH RESULT

With Teflon® PTFE, Teflon® FEP and Teflon® PFA, three coating systems are available that cover every possible need. Rudolf Gutbrod GmbH offers the right coating system – from the simple to the super non-stick coating – to match every requirement.

Also in the field of dry lubrication coatings, Gutbrod has perfect solutions to hand. PTFE one-layer systems are available, depending on the application, in many different types and qualities.

They are used everywhere where self-lubrication and dry-running operation characteristics are desired.

In the electrostatic procedure (powder coating with Teflon® PFA), workpieces are coated perfectly without any solvents up to the highest level of difficulty, in order to achieve increased reliability concerning abrasion.



In the spraying sinter procedure (airless and compressed air process), Gutbrod works with Teflon® PTFE and Teflon® FEP. The coating is sprayed on and then „sintered“ at 220° C to 420° C.

For pretreatment of the substrate, the most modern plant (defatting, aluminium oxide sandblasting) is available. Sintering capacity encompasses 16 ovens with a maximum size of 7×5×5 m and 9×2.5×2.5 m.

Controls after coating to ensure perfect surfaces, safe non-stick effect and correct layer thicknesses belong to the Gutbrod standard, as well as continuous testing of raw materials and production methods.

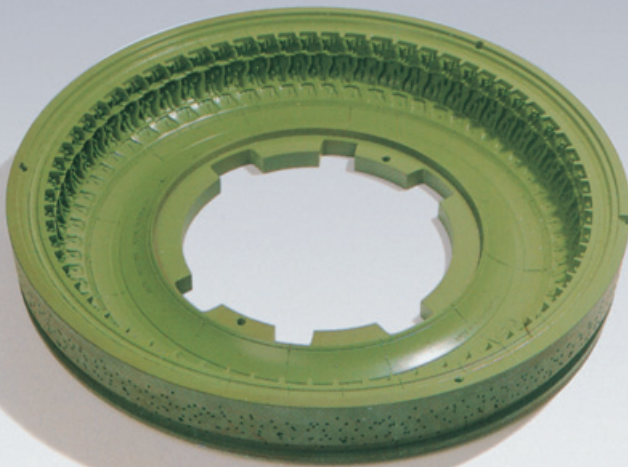


NON-STICK AND DRY LUBRICATION COATINGS FOR SMOOTH APPLICATION

Teflon® PTFE coatings are the ideal solution in all areas of the production process where operational breakdowns can occur due to contamination or incrustation.

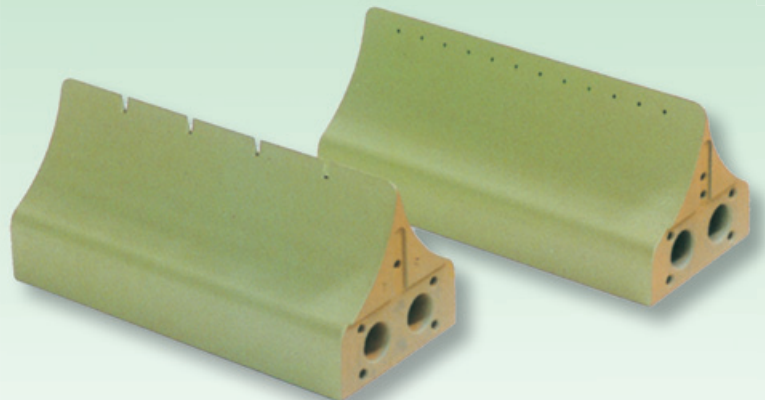
The advantages at a glance:

- Increased production rate
- Continuous working process
- No downtimes
- No adhering of foreign substances
- Solution to reject problems
- FDA compliant
- Also available as an electrically conductive version



Special advantages of dry lubrication coatings:

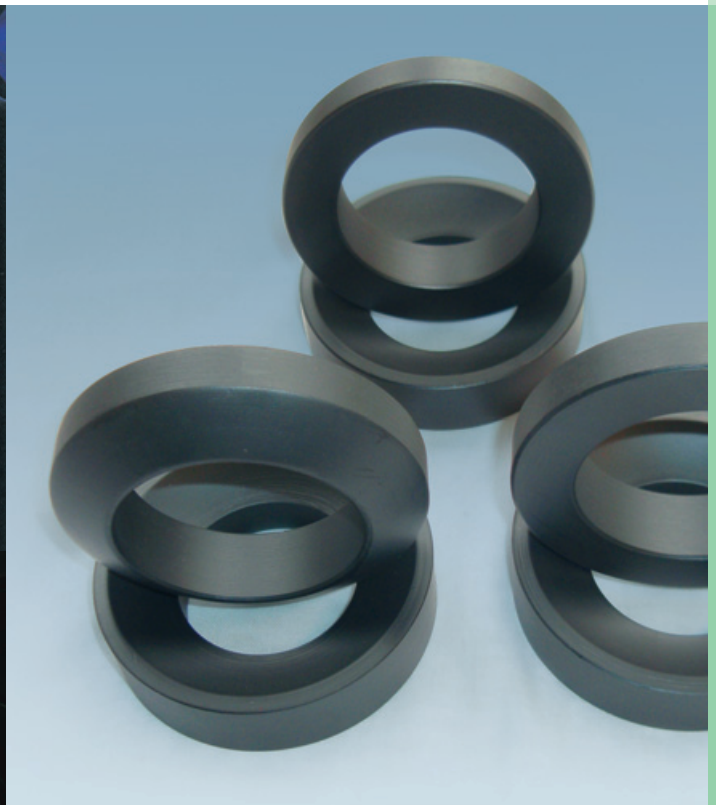
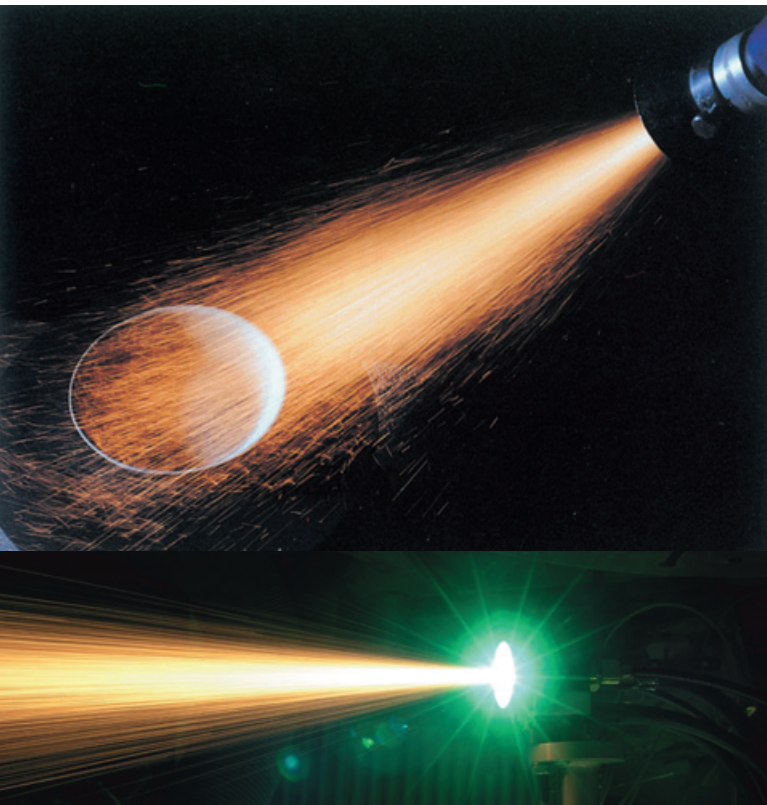
- Safe lubrication also at high pressures and extreme temperatures
- Less friction and abrasion
- Longer lubrication intervals
- Lower maintenance costs
- Clean, dry surfaces
- Controlled lubrication
- Good corrosion protection



THE SOLUTION TO THE HIGHEST REQUIREMENTS FOR ABRASION-RESISTANCE!

Wherever machine parts or handling elements are subject to above-average wear, a special coating is needed.

The newly developed PTFE, FEP and PFA combination coatings from Rudolf Gutbrod GmbH reliably and safely cover almost all requirements for surfaces, such as traction, low-friction characteristics, non-stick properties and abrasion resistance.



PTFE, FEP, PFA

COMBINATION COATINGS

The features at a glance

- Quality improvement through reduced abrasion
- Higher working speed
- Trouble-free material transport
- Shortened machine downtimes
- Higher productivity
- No product deposits, better cleaning
- Reduced maintenance and servicing

Sample applications

- Rollers
- Containers
- Hotplates
- Suspension frames
- Sealing jaws
- Casting moulds
- Screws
- Knives
- Slide rails
- Conveyor units
- Industrial baking moulds and baking sheets
- Press, guide and deflection rollers
- Welding bars

ADVANTAGES

THE SOLUTION FOR TASKS OF SINTER LINING

ChemResist sets new accents with the process and computer-controlled lining technology in the rotational sinter lining procedure. This process creates a smooth lining with an almost uniform coating thickness. With ChemResist, high-quality part and fully fluorinated materials are used, for example, ETFE and PFA, as well as the high performance plastic PE. ETFE and PE are also available as electrically conducting version. ChemResist can also be supplied FDA conform upon request.

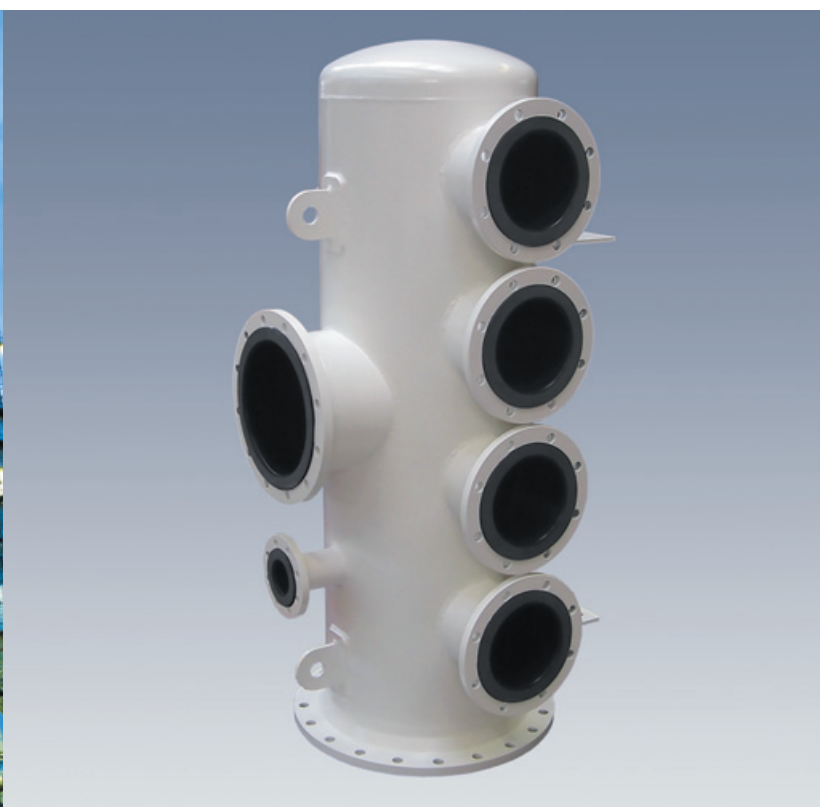
ROTATIONAL SINTER LINING



This also applies to the electrically dissipating versions (ETFE, PE). As partly and/or fully fluorinated plastics (ETFE, PFA), universal and permanent resistance exists against acids, caustic solutions, solvents and chlorides. ChemResist has an extremely smooth and anti-adhesive surface (ETFE, PFA) and thus prevents the adhesion or growth of bacteria. In the production of highly pure products (chip industry, highly pure special chemicals), ChemResist prevents the impairment of quality from foreign materials or dissolved metal ions.

ChemResist

ROTATIONAL-LINING



FLEXIBLE AND ECONOMICAL

With regard to the lining of special parts, ChemResist has clear advantages both economically and qualitatively. The procedure can be adapted flexibly to new conditions and/or requirements (the preparation of tools is not necessary). Even rigid construction requirements can be economically solved with ChemResist.

Preliminary mechanical work as well as the use of adhesives can be avoided. Resistance to chemicals and high temperatures remains unchanged. As a result of the strong and homogeneous lamination to the substrate, new and interesting perspectives arise in use under vacuum.

You can obtain more information in our separate brochure „ChemResist“ or in the Internet under www.gutbrod-ptfe.de

BEST QUALITY FOR THE HIGHEST RELIABILITY

Extensive control checks of raw materials as well as continuous testing under operating conditions, constant quality controls and permanent improvements in production methods belong to the quality management activities at Rudolf Gutbrod GmbH, in order to ensure optimal working reliability during use in practice.

Thus, for example, the non-porosity of the coating is ensured by checking the finished final layer for pore density after completing the layer structure.

Furthermore, we ensure proper coating build-up according to the DIN EN 14879-1.

The interplay between our know-how, the modern facilities and equipment as well as our motivated and qualified specialists creates immaculate quality to satisfy the highest requirements.



IMMACULATE AND ECOLOGICALLY MINDED

It is extraordinarily important for Gutbrod that we act in an ecology-minded way during all activities and with all products. We pay attention to avoid any environmental impact and to use resources responsibly.

THE RUDOLF GUTBROD COMPANY: PIONEER OF SURFACE TECHNOLOGY

Rudolf Gutbrod GmbH in Swabian Dettingen/Erms continues to set new standards in innovative coating technology. The company is leading in Europe as a processor of fluorinated polymers.

The enterprise was founded in 1964 and is a pioneer in Germany in surface coating technology with fluoropolymers. It is also a licensee in Europe of well-known raw material manufacturers and is one of Europe's top addresses as far as functional coatings with non-stick effect, low friction,

chemical protection and corrosion protection are concerned. State-of-the-art technology is ensured through continuous development work.

Raw material procurement is undertaken on a world-wide basis. International and permanent exchange of ideas will also ensure in the future that the highest possible quality will be maintained in solving the different requirements of our customers.





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